

## REMARKS

The present amendment is submitted in response to the Office Action dated February 20, 2009, which set a three-month period for response. Filed herewith is a Request for a Three-month Extension of Time, making this amendment due by November 20, 2009.

Claims 2-11 and 16-27 are pending in this application.

In the Office Action, claims 2, 3, and 14 were rejected under 35 102(b) as being anticipated by U.S. Patent No. 5,649,489 to Powell et al. Claims 15-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of U.S. Pub. 2004/0144960 to Arai et al. Claims 4 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of U.S. 2004/0096575 to Takahashi et al. Claim 5 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of Takahashi et al in view of U.S. 2003/0089581 to Thompson et al. Claims 6-7, 9, 20, 21 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of Takahashi et al in view of U.S. 2003/0104246 to Watanabe et al. Claims 8 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of Takahashi et al in view of Watanabe and in view of Thompson et al. Claims 10 and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of Takahashi et al in view of Watanabe et al in view of U.S. Patent No. 5,140,208 to Tozoni. Claims 11 and 25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Powell.

In the present amendment, claims 14 and 15 have been canceled, and new independent claims 26 and 27 have been added. The dependent claims were amended to change claim dependencies where necessary.

New claims 26 and 27 now clarify that the coating (15-17; 21-23) comprises at least in an outer area a mixture of a ground or matrix material and an additional material, said additional material being a tribologically active material having low friction and wear relative to a sliding skid material of said sliding ski (8), such that an immediate braking of the vehicle (4) is avoided when the sliding skid (8) is set down onto said sliding surface (14, 19) during travel of the vehicle.

A critical feature of the present invention is that the guideway is designed in such a manner that it does not immediately brake the levitation vehicle in case of emergency (i.e., if the skids have been set down on the sliding surfaces of the guideway), but only brakes the vehicle to such an extent that the vehicle can easily reach a repair and maintenance shop even if miles away merely by sliding, that is without driving force. An advantage thereof is the fact that the vehicle is not stopped because of the normally high friction between the skid and the sliding surface between two stations or repair and maintenance shops and thus does not obstruct the guideway for other vehicles. On the contrary, the vehicle can be moved by its own kinetic energy to the next shop or station and then moved away from the main track.

To address this problem, the present invention provides the guideway with an outer (upper) coating which has *poor* friction capabilities and a high resistance to wear. This teaching is the opposite as is disclosed in all other citations, including the newly

cited reference to Powell. Powell differs markedly from the subject matter of the present invention, at least in its function. In column 6, lines 21-33 and column 13, lines 37 through column 14, line 28, Powell discloses that the known guideway is provided with a "breakaway energy absorption structure 108 with an egg crate internal structure". This "breakaway structure" is, as the name implies, **not a sliding surface** on which the skids of a vehicle can slide for a long distance in the sense defined in new claims 26 and 27 and explained above.

On the contrary, the structure in Powell comprises a means for the absorption of kinetic energy of the vehicle, and this structure is intended to break away in case of emergency as soon as the skids are set down onto absorption structure 108 as clearly disclosed e. g. at column 13, lines 50-56 of the Powell et al patent. Contrary thereto, the outer layer of the present invention is intended for a **permanent** use and not only for a single use in an emergency case. The outer layer of the present invention is, therefore, provided with a wear resistant material in order to obtain an excellent adhesive strength in total (see page 8, lines 15, 16 of the specification).

According to column 14, second paragraph of Powell et al, the known breakaway structure has a low friction *only with respect to water* or the like in order to keep water out of the energy absorption structure and can, therefore, be flexible. Because the breakaway structure serves to break away in order to immediately stop the vehicle by means of energy absorption, the breakaway structure can not be considered to be a layer reducing friction and wear *if combined with or with respect to the sliding skid material of the sliding skid*. In other words, the surface 108, 110 of Powell et al is by no

means a sliding surface **for the vehicle** but merely a sliding surface for water and snow.

Thus, Powell describes a guideway with a set-down surface which, with respect to the sliding skid material, neither has a poor friction coefficient nor a high wear resistance nor is in any other way selected in dependence upon the skid material.

Thus, claims 26 and 27 are neither anticipated nor made obvious by the Powell et al patent taken alone or in combination with Arai et al.

The above points made above are at least applicable if the guideway according to Figs. 3-5, 14, 15, 17 and 18 of Powell are concerned. Only the embodiment of Fig. 23 of Powell et al shows an embodiment having skids directly resting upon the top structural plate 86 of the structural slab 78. According to COMM 10, lines 44-49 of Powell et al, the structural slab 78 is preferably formed of a non-metallic material such as polymer concrete to provide high strength, rigidity and service life. Slab 78 is provided, on its upper side, with a strong, rigid structural plate 86 preferably formed of a reinforced composite material such as polyester fiberglass, a plastic laminate, polymer concrete or the like (see column 10, line 62 through column 11, line 9 of Powell).

Such materials are the same as used in the present invention as the so-called ground or base material. Such materials are known in the art and are in no way selected in order to obtain a drastically reduced sliding friction coefficient *of the tribological sliding surface/sliding skid couple* as disclosed on page 8, fourth paragraph of the specification of the present application. On the contrary, such known materials per se

have a high friction coefficient such that the disadvantages described on page 1, line 8 through page 2, line 14 of the specification are obtained.

Further, the sliding skids are made from ferromagnetic material and have steel caps 66 which because of the desired fields generated by means of the windings 68 must be made from soft iron (column 10, lines 1-10 of Powell). Thus, in case of Fig. 23, there is no sliding skid/sliding surface pair having a reduced friction coefficient or a sliding surface layer being particularly selected in dependence upon the material of the sliding skid as defined in new claims 26 and 27.

Thus, also the embodiment according to Fig. 23 of Powell et al does not disclose the present invention, specifically, a guideway making possible a low braking force and, therefore, a long sliding of the vehicles in case of emergency.

In light of the features of Powell discussed above, then, the Applicants respectfully disagree that Powell discloses an additional material being admixed to the base material of the outer layer and being tribologically active for reducing friction and wear and *being compatible* with the sliding skid material, i.e., being adapted to form a sliding surface/sliding skid pair having a low friction coefficient. In particular *the coating 108, 110 mentioned at page 2, last paragraph of the Office Action is not compatible with the skid material but with water, snow or the like* in order to minimize the adhesion of snow and ice (column 14, lines 4-8 of Powell). In other words, the material of the coating 108, 110 is selected *independent* upon the skid material.

The reference to Arai concerns a resin-magnet composition for *magnets* being used in motors or the like (page 1, paragraph [0004]. According to page 3, paragraph

[0037] a filler such as whisker may be added, the whisker being silicon carbide, for example. Nothing is disclosed in Arai regarding carbon fiber-reinforced carbon enriched with SiC because according to Arai, the SiC is simply added to a base material which is not composed of carbon fiber-reinforced carbon. It follows from the above that a) Arai does disclose the material defined in new claim 27; b) Arai only discloses a material with respect to magnets instead of to sliding skids of magnetic levitation vehicles; and c) nothing is said by Arai with respect to a low friction coefficient between the material to which SiC is added and any material of an outer sliding layer.

It is not understood why Powell in view of Arai would render obvious the subject matter of new claim 27.


Furthermore, the Applicants disagree with the arguments at the end of page 3 and the first two lines of page 4 of the Office Action, because neither Powell nor Arai are concerned with the provision of a sliding skate which would be able to handle the friction energies that are induced when the vehicle is sliding on the surface as argued by the Examiner. As thoroughly discussed above, Powell is not concerned with any energy induced during sliding and particularly not with a small braking force. Thus, what could give any motivation to use the material defined in the claims in combination with the material of the outer layer of the sliding surface? The simple answer is: nothing.

Because the new independent claims include features that are not disclosed or suggested by Powell, the rejection under Section 102 must be withdrawn. The Applicants furthermore respectfully submit that Powell is not a proper reference under 35 USC 102 pursuant to the guidelines set forth in the last paragraph of MPEP section

2131, where it is stated that "a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference", and that "the identical invention must be shown in as complete detail as is contained in the ... claim".

The application in its amended state is believed to be in condition for allowance. Action to this end is courteously solicited. Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully submitted,

  
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